REMARKS/ARGUMENTS

The Office Action mailed June 30, 2005, has been received and reviewed. Claims 1 through 8, 10, 11, and 16 through 18 are currently pending in the application. Claims 1 through 8, 10, 11, and 16 through 18 stand rejected. Applicants have amended claim 16 and respectfully request reconsideration of the application as amended herein.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 5,200,362 to Lin et al.

Claims 16 through 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lin et al. (U.S. Patent No. 5,200,362). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 16 is directed to a method of fabricating an integrated circuit package. As amended herein, the method of claim 16 includes: providing a semiconductor die having a plurality of conductive pads; *forming a leadframe including* at least two conductors, each conductor of the at least two conductors having a first end and a second end and a generally arcuate-shaped portion between the first and second ends, at least a portion of each generally arcuate-shaped portion exhibiting a constant radius, and forming the generally arcuate-shaped portion of at least one of the at least two conductors to include a plurality of segments including at least one straight segment and at least one generally arcuate segment; configuring and positioning the at least two conductors such that line spacing between the generally arcuate-shaped portion of each of the at least two conductors is constant from their respective first ends to their respective second ends; electrically coupling the first ends of each of the at least two conductors with at least one of the plurality of conductive pads; and encapsulating the semiconductor die and at least a portion of the at least two conductors with an insulating material.

The Examiner cites Lin as disclosing a method of fabricating an integrated circuit package wherein the method comprises: "providing a semiconductor die (15) having a plurality of conductive pads (inherent because the die must have the pads for interconnect to the circuit pattern); forming at least two conductors (13, see Fig. 8), each conductor of the at least two conductors having a first end (the inner end) and a second end (along the transfer film) and a generally arcuate-shaped portion between the first and second ends, at least a portion of each generally arcuate-shaped portion exhibiting a constant radius, and forming the generally arcuate-shaped portion of at least one of the at least two conductors to include a plurality of segments including at least one straight segment and at least one generally arcuate segment; configuring and positioning the at least two conductors such that line spacing between the generally arcuate-shaped portion of each of the at least two conductors is constant from their respective first ends to their respective second ends (see Fig. 8); electrically coupling the first ends of each of the at least two conductors with at least one of the plurality of conductive pads 916); and encapsulating the semiconductor die and at least a portion of the at least two conductors with an insulating material (20)." (Office Action, pages 2 and 3).

Applicants note that the semiconductor device of Lin is a resin encapsulated device which is fabricated in a "thin format." (Col. 1, lines 14 and 15). As such, the semiconductor device is formed using a sheet of transfer film having a pattern of conductive traces formed on one side of the film. The conductive traces may be formed from a "foil of conductive material such as copper [which] is laminated to the transfer film and is subsequently patterned using conventional photolithographic patterning and etching." (Col. 2, lines 34-38). Lin states that an advantage of such construction includes the production of a device wherein "[n]o thick device 'header' or *leadframe* is necessary for mounting the device die, and so the thickness 't' is minimized." (Col. 3, lines 56-58, emphasis added; see also FIG. 5). Thus, the teachings of Lin are in direct contrast with claim 16 of the presently claimed invention which requires the act of *forming a leadframe.*

Additionally, while the Examiner points to FIG. 8 of Lin as teaching constant line spacing between two conductors, Applicants note that the only possible support for such an assertion is the unscaled drawing which is merely representative of a pattern of conductive traces. The

specification of Lin contains no descriptive discussion regarding the relationship of the conductors that would indicate that the line spacing between any of the conductors shown in FIG. 8 is indeed constant. Rather, the only statement specifically made by Lin regarding FIG. 8 is that it is a "representative and illustrative pattern" of traces. (Col. 2, lines 29 and 30).

Applicants, therefore, submit that claim 16 is clearly not anticipated by Lin. Applicants further submit that claims 17 and 18 are also allowable at least by virtue of their dependency from an allowable base claim.

Applicants respectfully request reconsideration and allowance of claims 16 through 18.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,200,362 to Lin et al. in View of U.S. Patent No. 4,807,018 to Cellai

Claims 1 through 8, 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al. (U.S. Patent No. 5,200,362) in view of Cellai (U.S. Patent No. 4,807,018). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of the claims are improper because the references relied upon by the Examiner fail to teach and suggest all of the limitations of the presently claimed invention and because there is a lack of motivation to combine the references in the manner proposed by the Examiner.

Independent claim 1 is directed to a method of fabricating an integrated circuit package, the method comprising: providing a semiconductor die having a plurality of conductive pads;

forming a leadframe including at least two conductors, each conductor of the at least two conductors having a first end and a second end and a generally arcuate-shaped portion between the first and second ends, at least a portion of each generally arcuate-shaped portion exhibiting a constant radius; configuring and positioning the at least two conductors such that line spacing between each of the at least two conductors is constant from their respective first ends to their respective second ends; electrically coupling the first ends of each of the at least two conductors with at least one of the plurality of conductive pads; and encapsulating the semiconductor die and at least a portion of the at least two conductors with an insulating material.

The Examiner relies on Lin as applied to claim 16 hereinabove and expressly notes that Lin does not teach forming a leadframe including at least two conductors. The Examiner then cites Cellai as teaching "a lead frame (13) including at least two conductors (18) for providing good electrical contact and good mechanical and thermal connection." (Office Action, page 4). The Examiner concludes that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Lin et al by utilizing the teaching of leadframe [sic] having plurality of conductor [sic] as taught by Cellai in order to form an integrated circuit having good electrical contact and good mechanical and thermal connections." (*Id.*) Applicants respectfully traverse this rejection.

As discussed hereinabove, Lin fails to teach or suggest forming a leadframe. Moreover, neither Lin nor Cellai teach forming a *leadframe* that includes at least two conductors, each having a first end and a second end and a generally arcuate-shaped portion between the first and second ends, at least a portion of each generally arcuate-shaped portion exhibiting a constant radius.

Moreover, as discussed hereinabove, Lin specifically teaches the use of a traces such as formed from a "foil of conductive material such as copper [which] is laminated to the transfer film and is subsequently patterned using conventional photolithographic patterning and etching." (Col. 2, lines 34-38). Lin states that an advantage of such construction includes the production of a device wherein "[n]o thick device 'header' or *leadframe* is necessary for mounting the device die, and so the thickness 't' is minimized." (Col. 3, lines 56-58, emphasis added; see also FIG. 5). Thus, Lin actually teaches away from the presently claimed invention. As a result, one of ordinary skill in the art would lack motivation to substitute the leadframe of Cellai for the foil-

type traces of Lin.

Furthermore, Applicants submit that the motivation provided by the Examiner for combining Lin and Cellai would not result in one of ordinary skill in the art actually combining the teachings of such references. As Lin teaches, the traces may be configured to have a smooth side and a rough side such that the smooth side enables efficient "peeling away" of the transfer film while the rough side provides good mechanical connection with the encapsulating resin. (Col. 3, lines 38-48). Thus, Lin has considered the needs of its conductive traces and has provided the characteristics that are required for satisfactory performance of its described device.

Applicants, therefore, submit that claim 1 is allowable over the proposed combination of Lin and Cellai. Applicants further submit that claims 2 through 8, 10 and 11 are also allowable by virtue of the dependency from an allowable base claim as well as for the additional patentable subject matter introduced thereby.

With respect to claim 2, Applicants submit that Lin and Cellai fail to teach or suggest forming a first conductor of a leadframe to exhibit a first arc length through its generally arcuate-shaped portion and forming a second conductor of a leadframe to exhibit a second arc length through its generally arcuate-shaped portion wherein the first arc length is different than the second arc length.

With respect to claim 3, Applicants submit that Lin and Cellai fail to teach or suggest forming each generally arcuate-shaped portion of each of the at least two conductors of a leadframe to exhibit a different arc length than any other generally arcuate-shaped portion of any other conductor of the at least two conductors of the leadframe.

With respect to claim 4 through 6, Applicants submit that Lin and Cellai fail to teach or suggest forming the generally arcuate-shaped portion of at least one of the at least two conductors of the leadframe to include a plurality of segments including at least one straight segment and at least one generally arcuate segment.

With respect to claim 5, Applicants submit that Lin and Cellai fail to teach or suggest forming the generally arcuate-shaped portion a conductor of leadframe with a plurality of segments which includes at least three segments.

With respect to claim 6, Applicants submit that Lin and Cellai fail to teach or suggest forming the generally arcuate-shaped portion a conductor of leadframe including defining at least

one segment of the plurality of segments to exhibit a different length than at least one other segment of the plurality of segments.

With respect to claim 7, Applicants submit that Lin and Cellai fail to teach or suggest forming at least one conductor of the at least two conductors of the leadframe such that the generally arcuate-shaped portion is a substantial portion of the at least one conductor.

With respect to claim 8, Applicants submit that Lin and Cellai fail to teach or suggest forming at least one conductor of the at least two conductors of the leadframe such that the generally arcuate-shaped portion exhibits a constant radius throughout an entire arc length thereof.

Applicants, therefore, respectfully request reconsideration and allowance of claims 1 through 8, 10 and 11.

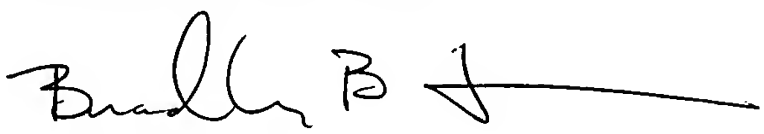
ENTRY OF AMENDMENTS

The amendment to claim 16 above should be entered by the Examiner because the amendment is supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1 through 8, 10, 11, and 16 through 18 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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